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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/804,688  
Filing Date: March 19, 2004  
Appellant(s): DAVIS ET AL.

\_\_\_\_\_  
Mr. Steven Greenberg  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/1/08 appealing from the Office action mailed 6/27/08.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

Claims 1-19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rossides (US 5,454,063).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 5,454,063      ROSSIDES      9-1995

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**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rossides (US 5,454,063).

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Rossides (US 5,454,063).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Rossides (US 5,454,063).

As per claim 1, Rossides teaches, “a method for processing string input for a field in an interactive voice response (IVR) system” (col. 3, lines 29-67, IVR, speaker’s input and a finite string of characters), the method comprising the steps of:

“identifying a sub-string pattern of characters within acceptable input for the field which is known to enjoy a high likelihood of recognition, the sub-string pattern of characters exclusively containing a sequence of characters appearing amongst all characters for the acceptable input for the field” (col. 5, lines 4-64, col. 1, lines 26-42 and col. 1, lines 56-63, here the invention provides “a high likelihood recognition”);

“prompting an interacting user for string input limited to said sub-string pattern” (col. 7, lines 1-40);

“matching received sub-string input conforming to said sub-string pattern with data which conforms to said acceptable input to locate the string input for the field and, completing the field with said matched data” (col. 7, lines 1-40).

As per claim 2, Rossides teaches, “wherein said identifying step comprises the step of identifying a sub-string pattern of characters within acceptable input for the field which is known to enjoy both a high likelihood of recognition and a high level of uniqueness” (col. 7, lines 1-40).

As per claim 3, Rossides teaches, “wherein said identifying step comprises the step of identifying a sub-string pattern of numeric, alphabetic and alphanumeric characters within acceptable input for the field which is known to enjoy a high likelihood of recognition” (col. 3, lines 55-56).

As per claim 4, Rossides teaches, “wherein said matching step comprises the step of querying a database for all records which have a specified field which contains said received sub-string input” (col. 4, lines 12-61).

As per claim 5, Rossides teaches, “further comprising the step of pre-specifying which characters have a high likelihood of recognition” (col. 4, lines 40-61).

As per claim 6, Rossides teaches, “further comprising the step of pre-specifying a likelihood of recognition value for each of said characters” (col. 9, lines 36-51).

As per claim 7, Rossides teaches, “if said matching step produces a set of matching data, each data item in said set matching said sub-string input, disambiguating a desired data item from other data items in said set” (col. 6, lines 1-31).

As per claim 8, Rossides teaches, “wherein said disambiguating step comprises the steps of: selecting an additional field for processing, additionally prompting said interacting user for additional input for said additional matching received additional input for said additional prompting with data which conforms to said acceptable input to locate the string input for the field” (col. 6, lines 1-46).

As per claim 9, Rossides teaches, “an interactive voice response (IVR) system comprising” (col. 3, line 29):

“at least one form comprising at least one field which can be completed using input received through the IVR system” (col. 4, lines 16-36);

“a sub-string analyzer coupled to the IVR system” (Fig. 3, elements “IVRR” and “Build search parameters”); and,

“a search processor coupled both to the IVR system and a database of data configured for searching based upon sub-strings which match sub-string patterns produced by said sub-string analyzer, the sub-string patterns exclusively containing a sequence of characters appearing amongst all characters for the acceptable input for the field” (col. 4, lines 40-61, “search parameters”, “database”);

“wherein said at least one field is completed using data matched in said database with said search processor using sub-string input provided through the IVR system” (col. 4, lines 12-21).

As per claim 10, Rossides teaches, “further comprising disambiguation logic” (col. 6, lines 1-46).

As per claim 11, Rossides teaches, “wherein said sub-string analyzer comprises a pre-configuration of computed recognition likelihoods for individual characters for use in forming said sub-string patterns” (col. 9, lines 36-51).

As per claim 12, Rossides teaches, “a machine readable storage having stored thereon a computer program for processing string input for a field in an interactive voice response (IVR) system” (col. 3, lines 9-31, here “hardware and software system includes input/output means”), the computer program comprising a routine set of instructions which when executed by a machine cause the machine to perform the steps of:

“identifying a sub-string pattern of characters within acceptable input for the field which is known to enjoy a high likelihood of recognition, the sub-string pattern of characters exclusively containing a sequence of characters appearing amongst all

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characters for the acceptable input for the field” (col. 5, lines 4-64, col. 1, lines 26-42 and col. 1, lines 56-63, here the invention provides “a high likelihood recognition”);

“prompting an interacting user for string input limited to said sub-string pattern” (col. 7, lines 1-40);

“matching received sub-string input conforming to said sub-string pattern with data which conforms to said acceptable input to locate the string input for the field” (col. 7, lines 1-40); and,

“completing the field with said matched data” (col. 9, lines 26-31).

As per claims 13-19, they are analyzed and thus rejected for the same reasons set forth in the rejection of claims 1-8, because of the similar scope of the claims.

#### **(10) Response to Argument**

Applicant argues that Rossides does not teach “identifying a sub-string pattern of characters within acceptable input for the field which is known to enjoy a high likelihood of recognition, the sub-string pattern of characters exclusively containing a sequence of characters appearing amongst all characters for the acceptable input for the field” (Appeal Brief, page 6). Applicant particularly emphasizes the language “which is known to enjoy a high likelihood of recognition” and “a sequence of characters”

Applicant argues that the factual determination of anticipation requires an “identical disclosure” (Appeal Brief, page 7), however this is not true. Applicant's intended meanings of the claim language and whatever is described in the Specification has no bearing on the claim language. Claims are to be given their broadest reasonable interpretation without reading the Specification into the claims. This permits



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alternative interpretations of the claim language that are not "identical", as applicant argues, but still constitute "disclos[ing a] limitation of the claimed invention".

Applicant then argues that because Rossides "relates only to the concept of abbreviating a name so as to shorten the number of letter-by-letter recognitions required when SPELLING a name to a recognizer" and "As such, Rossides wholly lacks a teaching directed to the identification of a sub-string pattern of characters within acceptable input for a field which is known to enjoy a high likelihood of recognition" (Appeal Brief).

This argument is flawed because it asserts that spelling a shortened name is not applicant's invention, but does not explain how it does not read on an interpretation of the claim language. The recitation "which is known to enjoy a high likelihood of recognition", for example, could be used to modify either the "substring pattern of characters" or the "field" (i.e., "a sub-string pattern of characters which is known to enjoy a high likelihood of recognition", or a "field which is known to enjoy a high likelihood of recognition") This is because "within acceptable input" and "for a field" and "which is known to enjoy a high likelihood of recognition" can all be interpreted as modifiers of the subject of the claim phrase (the "sub-string pattern of characters")

In speech recognition, a common problem is the existence of alternative pronunciations to the same sequence of letters (e.g., the toMAYto toMAHto example, or the difference between pronunciations of the same word by two people with different accents). This problem exists also for names that have silent letters (Juan has a silent "j" in Spanish) or spellings that don't correspond to the direct pronunciations of their

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letters (e.g., Stephen) or names that share the same pronunciation (Stephen-Steven, John-Jon, etc.). A speech recognition would not, on its own, be able to distinguish between different names with the same pronunciation, for example, and so there is not a "high likelihood of [proper] recognition" if a user were to input "John" since there is an ambiguity/confusion to the system. On the other hand, there is a far more limited way to pronounce individual letters (e.g., "a" is pronounced "ey" as in "hey", "b" is pronounced "bee", "c" is pronounced "see", etc.). Based on the limited number of pronunciations, a speech recognition system is not likely to be confused about the input and so there is a high likelihood of properly recognizing inputs of individual letters than names. Rossides provides additional modifications to this spelling system that further increases the likelihood of recognition from simply recognizing names by, instead, allowing the user to input an abbreviation of a name. Therefore, individual letters, as well as abbreviations are "known to enjoy a high likelihood of recognition". This ambiguity problem is described by Rossides in col. 1, lines 18-42. Although Rossides describes that spelling out words can have ambiguities as well (col. 1, lines 35-42), this does not prevent it from having a high likelihood of recognition, because it is far more effective than the possible confusions, ambiguities, and alternative spellings of 50,000 names (col. 1, lines 18-25). Applicant does not specify who "knows" that the sub-string (or the field) has a high likelihood of recognition, and so even if applicant meant that the system knows that there is a high likelihood of recognition, it does not apply here. This is because the claim scope can include both that the system knows of the high likelihood or that one of

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ordinary skill in the art knows, or someone reading Rossides knows, etc. All are reasonable interpretations of “which is known to enjoy a high likelihood of recognition”.

Individual letters of a word that don't spell the entire word form a "sub-string pattern of characters" because they form a part of a larger string of characters/letters that make up the entire word. Rossides provides an example in col. 7, lines 40-50 where M-A-C is a fraction of the longer string M-A-C-H-I-N-E-S. MACHINES is a string of letters and since MAC is made of the first three consecutive letters of MACHINES, it is a sub-string. Both of them are a “pattern of characters” because they are arranged in a particular order for a particular purpose (i.e., to form the correct word). Applicant does not specifically claim any specific pattern or type of string and so any intended definition of either “string” or “pattern” in the Specification does not apply.

This example is reflected in the cited portions in col. 5, lines 4-64, and col. 1, lines 26-42, in the example pertaining to the name “Bill”, which is an acceptable input into a name field, and, for example, the abbreviation “B\_LL” and “BI\_L” (col. 5, lines 24-34. Other apparent abbreviations can be BIL or BI or B at the discretion of the person setting the abbreviation to correspond to an input of BILL.

This sub-string is also a portion of a name which is well-known to be part of information obtained by voice-activated data entry systems (e.g., entering a name is common for ordering things like tickets). Therefore, the name constitutes an “acceptable input for a field” because a name can be used to fill in a "name" field in a form designed to collect information from a user. Applicant does not specify what the field is where the field is (e.g., in a form, as the only data being collected or somewhere

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else). Therefore, a data location for collecting a name, where storing the name for further use is commonly the reason a system would want to acquire a name from a user, reads on "for a field". The name itself is an acceptable input for the field because it is the very information that the "field" used by the system is designed to store.

Therefore, for example, M-A-C in MACHINES (which is part of the name "International Business Machines") is a "sub-string pattern of characters" of MACHINES, where International Business Machines is a name of a company, and so M-A-C is "within [an] acceptable input for a field", and is also "known to enjoy a high likelihood of recognition" because individual letters are far less often confused than the entire set of pronunciations of all possible names. They are far less often confused because they have a much smaller set of pronunciations. Therefore, spelling out a name is "known" (generally) to enjoy a "high likelihood of recognition" by systems built with sufficient training to distinguish individual letters. The use of an abbreviation improves the odds if it further limits the set and has some other feature that helps the system distinguish itself from other possible inputs. For example, even though K and J can be confused due to background noise or other interference, the idea of using abbreviations as per Rossides could have the words "kite" and "jump" as inputs and abbreviations of K-I and J-U. The idea of Rossides' invention would resolve the ambiguity in the first letter by distinguishing it based on the second letter (e.g., infer that the confused word is K because the pronounced second letter was AYE instead of YOU). This contributes to the improved proper recognition likelihood and so

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abbreviations of words, based on Rossides, are “known [either to Rossides’ readers or in general or otherwise] to enjoy a high likelihood recognition”.

Applicant does not claim that the entire sub-string must be pronounced in a single syllable, nor does applicant claim that the sub-string is analyzed from a recognition result of an input of an entire name. Therefore, spelling a name allows the system to retrieve a sub-string even if it takes a bit longer. Applicant does not claim that the entire retrieval of speech is a window of less than 1 second, for example, and so the time element is not a factor that prevents Rossides from reading on the claim language.

As for the remaining limitation “the sub-string pattern of characters exclusively containing a sequence of characters appearing amongst all characters for the acceptable input for the field”, as discussed above, the abbreviation M-A-C used to process MACHINES is a “sequence” of characters because it contains the first 3 consecutive letters in MACHINES. MAC, as part of the word MACHINES, by consequence, “appear[s] amongst all characters (where all characters is MACHINES) for the acceptable input for the field (because MACHINES is part of a name which is an acceptable input for a name field, as discussed above)”. Similarly the BILL example in the cited portion (col. 5, lines 4-64) includes an example where BIL is a substring that contains, exclusively, the letters in BILL.

Therefore, even if Rossides is not identical to applicant's invention, it still reads on the claim language and therefore anticipates applicant's claim limitation “identifying a sub-string pattern of characters (the abbreviation) within acceptable input (name) for the field (e.g., a blank entry location that is meant to hold name information, like a name

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field in a form) which is known to enjoy a high likelihood of recognition (known generally to one of ordinary skill in the art since pronouncing letters is more accurate than pronouncing whole words due to the much more limited set of pronunciations), the substring pattern of characters (BIL) exclusively containing a sequence of characters (BI) appearing amongst all characters (BILL) for the acceptable input (the name BILL) for the field" (name field in a form, for example).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Eric Yen/

Examiner, Art Unit 2626

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